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DANN DORFMAN PHILA

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AI-TECH-15A

PATENT APPLICATION
Serial No. 10/732,984

REMARKS

Claims 24-48 are pending in the captioned Application in which claims 24-31 are finally rejected, claims 32-48 are allowed, and claims 1-23 and 49 were previously cancelled.

Entry of this Amendment is proper because it is believed to distinguish the claims and thereby place the Application in condition for allowance.

Rejection Under 35 U.S.C. §102(b):

Claims 24-28 are finally rejected under 35 U.S.C. §102(b) as being anticipated by US 6,008,993 to Kreft. The rejection is overcome by claim 24 as amended.

The Examiner raises an objection in paragraph 9 of the Office Action that claim 24 does not preclude a dimensionally stable material. Claim 24 as amended precludes that the material used for the insulating substrate be dimensionally stable, thereby overcoming the Examiner's objection.

Claim 24 is amended to clarify that providing the insulating substrate is to provide a substrate that is not of a dimensionally stable material while the providing an electronic circuit substrate is to provide a substrate of a dimensionally stable material. As a result, the article made by the method of claim 24 includes two substrates, one dimensionally stable and the other not dimensionally stable. Thus, an electronic article can be made at much lower cost using the claimed method because only the electronic circuit substrate, which is relatively smaller, is of the more expensive dimensionally stable material, whereas the relatively larger insulating substrate is of a less expensive non-dimensionally stable material.

Kreft relates to chip card with chip 5 support element A, i.e. a contact face support element, and coil support element B which are combined by an electrically conducting adhesive material 7. (Abstract; column 2, lines 5-32; column 5, lines 10-36; Figs. 1a & 1b). Chip support element A has contact faces 4 which presumably provide contact patterns for a contact-type chip card, as in a conventional telephone card. (column 5, lines 12-15; column 1, lines 6-10). Kreft's chip support element A has contacts locations at which conductive adhesive 7 is applied that are not at the opposing ends thereof, but Kreft's contacts are inward from the ends thereof as is clearly shown in Figure 1a of Kreft, and so Kreft's chip support

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element has a length that is longer than the spacing between the contact faces 3 of coil support element B. (Figure 2).

Nothing in Kreft describes or suggests providing a jumper substrate of dimensionally stable material whose length is the predetermined distance between contact sites of an insulating substrate for an electronic article or that the contact sites thereof be at the opposing ends thereof, as recited in Applicant's claim 24. Accordingly, claim 24 distinguishes over Kreft and is allowable at least for this reason.

Nothing in Kreft describes or suggests that a non-dimensionally stable material be utilized for the insulating substrate and that a dimensionally stable material be utilized for the jumper substrate, whereby the use of dimensionally stable substrate material, which may be relatively expensive, may be limited to the jumper substrate, as in Applicant's method claimed in claim 24. Accordingly, claim 24 further distinguishes over Kreft and is allowable at least for this reason also.

Applicant's claim 24 as amended is patentable at least because it recites:

"providing an insulating substrate for the electronic article having an electrical conductor thereon, wherein the insulating substrate is of a material that is not dimensionally stable, wherein the electrical conductor includes first and second contact sites spaced substantially a predetermined distance;

"providing an insulating electronic jumper substrate of a dimensionally stable material and having a length substantially the predetermined distance between first and second opposing ends, having first and second contact sites at the first and second opposing ends thereof, respectively, and having first and second terminals respectively connected to the first and second contact sites thereof;

"mounting an electronic device to the electronic jumper substrate with first and second contacts of the electronic device connected to the first and second terminals of the electronic jumper substrate; and

"then mounting the electronic jumper substrate to the insulating substrate with the first and second contact sites of the electronic jumper substrate electrically connecting with the first and second contact sites of the insulating substrate,"

which is not described or suggested by Kreft.

Applicant's claims 25-28 are patentable at least because they depend from patentable claim 24. In addition, claim 30 recites a that the insulating substrate of a material that is not dimensionally stable at the melting temperature, which is not described or suggested by Kreft.

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Accordingly, the rejection under 35 U.S.C. §102(b) is overcome and should be withdrawn.

Rejections Under 35 U.S.C. §103(a):

Claim 29 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kreft in view of US 6,629,366 to Kobayashi. The rejection is respectfully traversed.

Applicant's claim 29 is patentable at least because it depends from patentable claim 24, and so the rejection should be withdrawn.

In addition: Kreft is discussed above. Kobayashi relates to a method for producing a multilayer wiring board wherein a core substrate 29 is described at column 6, lines 18-37, as being supported by a conductor substrate 10 for enabling the multilayer wiring board 44 to be securely supported in the course of production thereof to thereby improve its (i.e. board 44's) dimensional stability, i.e. of the assembly. It is not seen that this reflects on the dimensional stability of the material per se.

Examiner's statement of a reason for obviousness is "to use dimensionally stable material for the electronic substrate of Kreft, as suggested by Kobayashi, for the purpose of improving the stiffness of the substrate during manufacture." The Examiner's statement is not correct because it is not seen where Kobayashi makes such suggestion. In addition, it is not seen that Kobayashi as referred to by the Examiner addresses the problem of dimensional stability addressed by Applicant or suggests Applicant's novel and non-obvious solution thereof, and so is simply irrelevant to any basis for combining the references.

Thus, claim 29 should be allowed because the combination of references is improper lacking basis, and also because even if they could be properly combined, the references do not describe or suggest Applicant's novel and unobvious method.

Claim 30 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kreft in view of US 5,718,367 to Covell, II et al. The rejection is respectfully traversed.

Applicant's claim 30 is patentable at least because it depends from patentable claim 24, and so the rejection should be withdrawn.

In addition: Kreft is discussed above. Covell relates to a mold transfer apparatus for

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forming solder balls and the like. Column 10, lines 38-43 thereof relates to the materials of which a mold is to be made, and does not relate to an electronic article of the sort described and claimed by Applicant. Covell relates to molds and molding and so is non-analogous art that should not be considered, thereby removing the objection.

In addition, Covell at column 10, lines 38-43, teaches that the material of the mold and the material of the substrate should have matching coefficients of expansion and should have the property of dimensional stability. Covell thus teaches away from Applicant's claim 30 which recites a material that is not dimensionally stable.

Examiner's statement of a reason for obviousness is "to use a dimensionally unstable material for the substrate of Kreft, as suggested by Covell, II et al., for the purpose of improving solder reflow" which does not address the problem of dimensional stability addressed by Applicant or suggest Applicant's novel and non-obvious solution thereof, and so is simply irrelevant to any basis for combining the references. Examiner's statement is factually incorrect because Covell teaches having the property of dimensional stability. Moreover, it is not seen how a dimensionally unstable material would improve solder reflow as Examiner states.

Thus, claim 30 should be allowed because the combination of references is improper due to teaching away, and also because even if they could be properly combined, the references do not describe or suggest Applicant's novel and unobvious method.

In addition, claim 30 recites a substrate of a material that is not dimensionally stable at the melting temperature of solder or electrically conductive adhesive, which is not described or suggested by Kreft and/or Covell, whether taken individually or in proper combination.

Claim 31 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kreft in view of US 6,606,247 to Credelle et al. The rejection is respectfully traversed.

Kreft is discussed above. Credelle relates to multi-feature-size electronic structures which include an elongated conductor 311 comprising an antenna (Column 5, lines 25-45).

Applicant's claim 31 is patentable at least because it depends from patentable claim 24, and so the rejection should be withdrawn.

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Accordingly, the rejections under 35 U.S.C. §103(a) are overcome and should be withdrawn.

Allowable Subject Matter:

Regarding allowed claims 32-48, the Examiner's reasons for allowance set forth in paragraph 8 of the Office Action appear to paraphrase certain wording in certain of the independent claims and to lump the allowed claims together.

Applicant's note that allowed independent method claims 32 and 39 each comprise a combination of steps that include steps that are different from each other and from those recited in independent method claim 45. In addition, each of claims 32, 39 and 45 recites different limitations regarding similar steps and similar elements than are recited in others of the independent claims. Independent method claims 32 and 39 do have in common that the result of the method includes a plurality of electronic articles each including an individual jumper, whereas independent claim 45 has the result of individual jumpers.

In addition, the method of Applicant's claims is "for making a plurality of electronic articles" or "for making a plurality of electronic circuits," and is not for "providing a set of electronic devices..." as Examiner states.

Applicant maintains that each of allowed claims 32-48 is allowable in its own right because of the particular steps and combination of steps that each recites. In particular, and not as limiting other claims, claims 32-48 are allowable over and above the fact that claim 32 recites two "separating..." steps while claims 39 and 45 each recite only one "separating..." step.

Thus, claims 32-48 are patentable because of the novel and non-obvious combination of steps recited therein, i.e. for reasons besides the separating step or steps, and including, but not limited to, the resulting structure.

Conclusion:

Entry of this amendment is proper because it places the Application in condition for allowance.

Applicant respectfully requests that the rejections be withdrawn and that the

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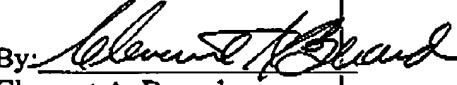
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Application including claims 24-48 be allowed and passed to issuance.

The number of claims remaining being the same as or less than the number previously paid for, no fee is due in consequence of this timely filed response. However, should any fee be due in consequence of this response, please charge such fee and deposit any refund to Deposit Account 04-1406 of Dann, Dorfman, Herrell & Skillman.

The Examiner is requested to telephone the undersigned attorney if there is any question or if prosecution of this Application could be furthered by telephone.

Respectfully submitted,
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